WHAT IS CLAIMED IS:

1. A part measurement system comprising:

a press machine including a lower die coupled to an upper die, wherein the lower die includes a top surface supporting a strip of material to be formed into a part after a stripper plate coupled to the upper die contacts the strip of material;

a part measurement sensor located in the lower die, wherein the sensor measures a critical dimension of the part while the part is in the lower die;

a part forming rail coupled to the lower die, wherein the forming rail and the upper die form the critical dimension of the part; and

a press controller coupled to the press machine and the sensor, wherein the controller processes a measurement signal from the part measurement sensor of the critical dimension of the part, compares the measurement signal to a predetermined threshold value, and generates a command signal to the press machine to adjust the forming rail based on the measurement signal.

2. The measurement system according to claim 1, wherein the forming rail is coupled to a servo and the press controller adjusts the servo based on the measurement from the sensor of the critical dimension of the part.

3. The measurement system according to claim 2, wherein the upper die includes a knocker that contacts the forming rail to form the critical dimension of the part.

4. The measurement system to claim 1, wherein the sensor is an analog output proximity switch located in the lower die.

5. The measurement system according to claim 1, wherein the press machine is a progressive punch press.

6. The measurement system according to claim 5, wherein the sensor generates a first measurement signal prior to the upper die punching the strip of material and a second measurement signal after the upper die punches the strip of material.

7. The measurement system according to claim 6, wherein the press controller generates an average measurement signal based on the first measurement signal and the second measurement signal.

8. The measurement system according to claim 7, wherein the press controller compares the average measurement signal to the predetermined threshold to determine whether to adjust the forming rail.

9. The measurement system according to claim 6, wherein the sensor generates the first measurement signal when the press machine is between 130 degrees and 150 degrees.

10. The measurement system according to claim 9, wherein the sensor generates the second measurement signal when the press machine is between 180 degrees and 360 degrees.

11. A part measurement system comprising:

a press machine including a lower die coupled to an upper die, wherein the lower die includes a top surface supporting a strip of material to be formed into a part after a stripper plate coupled to the upper die contacts the strip of material;

a part measurement sensor located in the lower die, wherein the sensor measures a critical dimension of the part;

a part forming rail coupled to the lower die, wherein the forming rail and the upper die form the critical dimension of the part; and

a press controller coupled to the press machine and the sensor, wherein the controller processes a measurement signal from the part measurement sensor of the critical dimension of the part, compares the measurement signal to a

predetermined threshold value, and generates a command signal to the press machine to adjust the forming rail based on the measurement signal.

12. The measurement system according to claim 11, wherein the sensor measures the critical dimension of the part while the part is in the lower die.

13. The measurement system according to claim 12, wherein the forming rail is coupled to a servo and the press controller adjusts the servo based on the measurement from the sensor of the critical dimension of the part.

14. The measurement system according to claim 13, wherein the upper die includes a knocker that contacts the forming rail to form the critical dimension of the part.

15. The measurement system to claim 11, wherein the sensor is an analog output proximity switch located in the lower die.

16. The measurement system according to claim 11, wherein the press machine is a progressive punch press.

17. The measurement system according to claim 16, wherein the sensor generates a first measurement signal prior to the upper die punching the strip of material and a second measurement signal after the upper die punches the strip of material.

18. The measurement system according to claim 17, wherein the press controller generates an average measurement signal based on the first measurement signal and the second measurement signal.

19. The measurement system according to claim 18, wherein the press controller compares the average measurement signal to the predetermined threshold to determine whether to adjust the forming rail.

20. The measurement system according to claim 19, wherein the sensor generates the first measurement signal when the press machine is between 130 degrees and 150 degrees.

21. The measurement system according to claim 20, wherein the sensor generates the second measurement signal when the press machine is between 180 degrees and 360 degrees.

22. A method of measuring a critical dimension of a part in a press machine, the method including the steps of:

feeding a strip of material through the press machine, wherein the machine includes a lower die coupled to an upper die and the lower die includes a top surface supporting the strip of material;

forming the strip of material into the part, wherein a stripper plate coupled to the upper die contacts the strip of material and the upper die punches the strip of material;

measuring the critical dimension of the part with a part measurement sensor located in the lower die;

processing a measurement signal from the part measurement sensor of the critical dimension of the part, wherein a press controller compares the measurement signal to a predetermined threshold value, and generates a command signal to the press machine; and

adjusting a forming rail coupled to the lower die based on the command signal from the press controller.

23. The method according to claim 22, wherein the forming rail is coupled to a servo and the press controller adjusts the servo based on the measurement from the sensor of the critical dimension of the part.

24. The method according to claim 23, wherein the upper die includes a knocker that contacts the forming rail to form the critical dimension of the part.

25. The method according to claim 22, wherein the sensor is an analog output proximity switch located in the lower die.

26. The method according to claim 22, wherein the press machine is a progressive punch press.

27. The method according to claim 26, wherein the sensor generates a first measurement signal prior to the upper die punching the strip of material and a second measurement signal after the upper die punches the strip of material.

28. The method according to claim 27, wherein the press controller generates an average measurement signal based on the first measurement signal and the second measurement signal.

29. The method according to claim 28, wherein the press controller compares the average measurement signal to the predetermined threshold to determine whether to adjust the forming rail.

30. The method according to claim 29, wherein the sensor generates the first measurement signal when the press machine is between 130 degrees and 150 degrees.

31. The method according to claim 30, wherein the sensor generates the second measurement signal when the press machine is between 180 degrees and 360 degrees.

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